



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/816,322	03/30/2004	Maria R. Tursi	08211/1200663-US1/P05913	9135
38845	7590	06/02/2005	EXAMINER	
DARBY & DARBY P.C.			TON, MY TRANG	
P.O. BOX 5257			ART UNIT	PAPER NUMBER
NEW YORK, NY 10150-5257			2816	

DATE MAILED: 06/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/816,322

Applicant(s)

TURSI ET AL.

Examiner

My-Trang N. Ton

Art Unit

2816

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10-20 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4-9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.


Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.


MY-TRANG NUTON
PRIMARY EXAMINER

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/1/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 3 are rejected under 35 U.S.C. 102(b) as being anticipated by Shields et al (U.S Patent No. 4,781,437).

Shields et al disclose in Fig. 4 a display line driver including:

Regarding claim 1:

a processing circuit (inherent seen connected to 22) that is interleaved such that the processing circuit comprises a first processing channel (first 22) and a second processing channel (second 22);

a first sample and hold channel (first branch), comprising:

a first sampling switch circuit (17) that is coupled between a first node (16) and a second node (node connected between 17 and 21);

a first sampling capacitor (23) that is coupled to the second node (the node connected between 17 and 21); and

a first holding switch circuit (19) that is coupled between the second node (the node connected between 17 and 21) and the first processing channel (22); and

a second sample and hold channel (second branch), comprising:

a second sampling switch circuit (17) that is coupled between the first node (16) and a third node (node connected between 17 and 21);

a second sampling capacitor circuit (23) that is coupled to the third node (the node connected between 17 and 21); and

a second holding switch circuit (19) that is coupled between the third node (the node connected between 17 and 21) and the second processing channel (22).

Regarding claim 3:

the first sample-and-hold channel (the first branch) further comprises a buffer circuit (13) that is coupled between the first sampling switch (17) and the first holding switch circuit (19 via 18), and wherein the second sample and hold channel (the second branch) further comprises another buffer circuit (13) that is coupled between the second sampling switch (17) and the second holding switch circuit (19 via 18).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shields as applied to claim 1 above, and further in view of Nagaraj (IEEE Journal cited in PTOL 1449).

As stated above, every element of the claimed invention recited in above claims can be seen in the circuit of Shields. However, this reference does not specifically show "a buffer circuit having an output that is coupled to the first node" as recited in claim 2.

Nagaraj teaches in Fig. 3 the used of an input buffer (Buf1) connected to input (Vinp) and having an output coupled to first node (node connected to switches) is needed due to the low drive capability of the preceding circuit.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to insert the input buffer Buf1 of Nagaraj in the input 16 of Shields for the purpose of buffering the signal and improving the speed of operation.

Allowable Subject Matter

Claims 4-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. None of the prior art disclosed or suggested to show the particular structure and/or the particular operation recited in these claims namely: "first bank of the interleaved analog-to-digital conversion circuit" and "second bank of the interleaved analog-to-digital conversion circuit" as recited in claim 4; "a boost circuit ... exceeds the high power supply voltage" as recited in claim 5; the operation as recited in claim 7; "wherein the sample phase ... from the first holding switch circuit" as recited in claim 8; "the sample phase ... for the second sample-and-hold channel" as recited in claim 9.

Claims 10-20 are allowable over the prior art of record. None of the prior art disclosed or suggested to show the particular structure and/or the particular operation recited in these claims namely: "the first boosted switch circuit", "the first dummy circuit" and "the boost circuit" in combination with "a first sampling switch" and "a sampling capacitor" as recited in claim 10; "a means for providing a boosted signal ... corresponds

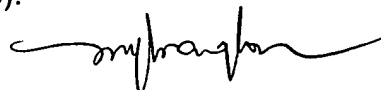
Art Unit: 2816

to the high power supply voltage", "a means for opening and closing ... to the boosted signal" and "a means for absorbing channel charge... to another boosted signal" in combination with "a means for coupling a first node ..." and "a means for storing charge at the second node" as recited in claim 20.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to My-Trang N. Ton whose telephone number is 571-272-1754. The examiner can normally be reached on 7:00 a.m - 5:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on 571-272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



My-Trang N. Ton
Primary Examiner
Art Unit 2816

May 24, 2005